AUTHOR INDEX, VOLUME 7

Acker, T.: see Odian, G.
Adams, N.: Friction and determination of nylon. I. Experimental, 2075
——: Friction and determination of nylon. II. Theoretical, 2105
Aelony, D.: One-step polyallylation of phenols, 1509
Akkerman, F. D. H.: Flexcracking of polymers, 1425
Allen, P. W., and Bristow, G. M.: Gel phase in natural rubber, 603
Anderson, R. E.: see Wishman, M.
Andrews, E. H., and Braden, M.: The surface reaction of ozone with chemically protected rubber, 1003
Andrews, R. D.: see Lenz, R. W.
Anton, A.: A direct infrared estimation of cyclic oligomers in water extract of nylon 6, 1629
Anysas, G. A.: see Brandt, W. W.
Atchinson, G. J.: Radical decay and color formation at various temperatures in unplasticized poly(vinyl chloride) irradiated *in vacuo* at 25°C., 1471
Baer, E.: see Johnson, D. L.
Bagley, E. B.: Surface melt fracture in polymer extrusion, S7
——, Storey, S. H., and West, D. C.: Post extrusion swelling of polyethylene, 1661
Ballman, R. L.: Polymer flow irregularities, S27
Barker, R. E., Jr.: see Thomas, C. R.
Barnaebo, A. E.: see Reinking, N. H.
Barrante, J. R.: see Lenz, R. W.
Beachell, H. C., and Ngoc Son, C. P.: Color formation in polyurethanes, 2217
Beattie, W. H., and Booth, C.: Intrinsic viscosity-molecular weight relationship for *cis*-1,4-polyisoprene, 507
Benerito, R. R.: see McKelvey, J. B.
——: see Ziifle, H. M.
Berkowitz-Mattuck, J. B., and Noguchi, T.: Pyrolysis of untreated and APO-THPC treated cotton cellulose during one-second exposure to radiant flux levels of 5–25 cal./cm.^{2} sec., 709
Berni, R. J.: see McKelvey, J. B.
——: see Ziifle, H. M.
Berninger, C. J., Degeiso, R. C., Donaruma, L. G., Scott, A. G., and Tomic, E. A.: Polymeric ligands IV. Polyvinyl β-ketoesters, 1797
Bevilacqua, E. M.: Oxidation of rubber vulcanized with a sulfenamide accelerator, 789
Bhatnagar, H. L.: see Safare, P. S.
——: see Saxena, V. P.
Bieron, J. F.: see Conley, R. T.
Bikerman, J. J., and Marshall, D. W.: Adhesiveness of polyethylene mixtures, 1031
Biswas, A. B.: see Safare, P. S.
——: Saxena, V. P.
Bobalek, E. G.: see Rovatti, W.
Booth, C.: see Beattie, W. H.
Bork, J. F., Wyman, D. P., and Coleman, L. E.: Nitrogen-containing monomers. III. Reactivity ratios of *N*-alkyl acrylamides with vinyl monomers, 451
Botty, M. C.: see Wishman, M.
Bradbury, J. H.: Sorption of liquids by wool. Part III. Accessibility of wool to sorbates, 557
——, and Leeder, J. D.: Sorption of liquids by wool. Part I. Determination of the sorbate content by a new technique, 533
——: Sorption of liquids by wool. Part II. Determination of partial specific volumes of wool, 545
Braden, M.: see Andrews, E. H.
Brandt, W. W. and Anysas, G. A.: Diffusion of gases in fluorocarbon polymers, 1919
Bristow, G. M.: The use of sol-gel analysis to estimate chain scission during vulcanization. Part I. Peroxide vulcanization of natural rubber, 1023
——: see Allen, P. W.
Bro, M. I., Lovejoy, E. R., and McKay, G. R.: Reactions of irradiated polytetrafluoroethylene resin, 2121
Brock, F. H.: Mathematical description of the stress-strain behavior of filled binders, 1613
Brodkey, R. S.: see Metzger, A. P.
Brown, G. L.: see Hughes, L. J.
Bueche, F.: Strength of filled rubbers: Temperature, rate, and oxygen effects, 1165
Burgis, B. G.: see McKelvey, J. B.
Caldwell, J. R.: see Jackson, W. J., Jr.
Carhart, R. O.: see Giuffria, R.
Carlson, D.: see Tobolsky, A. V.
Catsiff, E. H.: A comment on Solomon and Ciută's single-point method of determining intrinsic viscosity, S37
Chen, C. C., Hsia: see Stamm, R. F.
Chinai, S. N., and Schneider, W. C.: High-shear capillary viscosity studies on concentrated copolymer solutions, 909, (*erratum*), S51
Chitale, A. G.: see Kulkarni, A. Y.
Clark, R. J.: see Isaksen, R. A.
Cohen, M., Kohn, L. S., and MacDonald, D. I.: Dielectric loss features of some epoxy resins, 2003
Coleman, L. E.: see Bork, J. F.
Conley, R. T., and Bieron, J. F.: A study of the oxidative degradation of phenol-formaldehyde polycondensates using infrared spectroscopy, 103
——: A kinetic study of the oxidative

degradation of phenol-formaldehyde polycondensates using infrared spectroscopy, 171
——: Examination of the oxidative degradation of polyacrylonitrile using infrared spectroscopy, 1757
Conley, R. T., and Metil, L.: An investigation of the structure of furfuryl alcohol polycondensates with infrared spectroscopy, 37
——: A study of the oxidation degradation of furfuryl alcohol polycondensates by infrared spectroscopy, 1083
Corish, P. J.: Spectroscopic studies of ultrathin microtomed sections of polymers. Part III. Rapid characterization of antioxidants cured black-loaded rubber from ultraviolet spectra of extracts of sections, 727
Cotten, G. R., and Schneider, W. C.: Fractionation of acrylonitrile copolymers. I. Development of a method, 1243
Cox, B. C., and Ellis, B.: Introduction of polymer sampler into a microreactor, S19
Crescentini, L.: Gechele, G. B.
Crompton, T. R.: The effect of carbon black on thermal antioxidants for polyethylene, (*erratum*), S22
Czapek, E.: see Mykolajewycz, R.
Dannhauser, W.: see Foss, R. A.
Dannis, M. L.: Transition measurements using differential thermal analysis techniques, 231
Davis, D. A.: see Giuffria, R.
Decker, H. J.: see Horn, C. F.
Degeiso, R. C., Donaruma, L. G., and Tomic, E. A.: Polymeric ligands. IV. Vinyltriacylmethanes, 1515
——: Polymeric ligands. V. Derivatives of dimethylglyoxime, 1523
Degeiso, R. C.: see Berninger, C. J.
De Kőrösy, F.: Sign reversal of permselective membranes: A possible mechanism for neural conduction, 1265
Dermody, W. J.: see Meltzer, T. H.
Detoro, F. E.: see Wishman, M.
DeVries, A. J., and Tochon, J.: Nonlinear viscoelastic behavior of polymer melts, 315
Donaruma, L. G.: see Berninger, C. J.
——: see Degeiso, R. C.
Duddy, J. C.: see Meltzer, T. H.
Dunham, K. R., Faber, J. W. H., VanDenBerghe, J., and Fowler, W. F., Jr.: Polystyrene modifications. II. Ring-substituted polystyrenes, 897
——, VanDenBerghe, J., Faber, J. W. H., and Fowler, W. F., Jr.: Polystyrene modifications. I. Styrene copolymers, 143
——: Polystyrene modifications. III. Copolymers and terpolymers of 2,5-dichlorostyrene and 3,4-dichlorostyrene, 1531
Dunn, J. R.: The effect of extraction and rubber purity on the stress relaxation of dicumyl peroxide vulcanizates, 1543
Durocher, T. E.: see Lloyd, W. G.
Eckert, R. E.: Melt elasticity and viscosity of Neoprene WB at high shear rates, 1715
Eckert, R. J., Jr.: see Klein, E.
Eisenberg, A.: see Tobolsky, A. V.
Eliassaf, J.: Interaction of sodium dodecyl sulfate with vinyl polymers in aqueous solutions, S3
——: A remark on the hydrogen bond breaking action of urea, S16
——: Solutions of neutralized poly(acrylic acid) in mixtures water-ethanol, S9
Ellis, B.: see Cox, B. C.
Ender, H. H.: Siloxy methylene oxide compounds, 1133
Engel, J. H., Jr., Reegen, S. L., and Weiss, P.: Effect of structure on temperature stability and solubility of polyester–urethanes, 1679
Ernsberger, F. M.: see Kaufman, M. H.
Faber, J. W. H.: see Dunham, K. R.
Feit, B. A., and Zilkha, A.: Anionic homogeneous and heterogeneous polymerizations of acrylonitrile by alkali metal alkoxides, 287
Felton, C. D.: see Stamm, R. F.
——: see Wishman, M.
Fettes, E. M., and Mark, H.: Cleavage of disulfide polymers. II. By thiols, 2239
Fischer, R. F.: Crosslinked polyesters from allyl glycidyl ether and maleic anhydride, 1451
Forrette, J. E.: see Ziomek, J. S.
Foss, R. A., and Dannhauser, W.: Electrical conductivity of polypropylene, 1015
Fowler, W. F., Jr.: see Dunham, K. R.
Freure, B. T.: see Horn, C. F.
Fritz, E. G., and Johnson, P. G.: Stress-strain behavior of irradiated polyurethane elastomers, 1439
Gamble, L. M.: Calibration device for an extensometer, S15
Gardon, J. L.: Peel adhesion: I. Some phenomenological aspects of the test, 625
——: Peel adhesion. II. A theoretical analysis, 643
Gareis, P. J.: see Stern, S. A.
Garvin, C. M.: see Meltzer, T. H.
Gavis, J., and Middleman, S.: Origins of normal stress in capillary jets of Newtonian and viscoelastic liquids, 493
Gechele, G. B., and Crescentini, L.: Melting temperatures and polymer solvent interaction for polycaprolactans, 1349
Gessler, A. M., and Payne, A. R.: Dynamic properties of butyl containing attrited black, 1815
Gillham, J. K., and Lewis, A. F.: Dynamic mechanical properties of supported polymers. II. Application of the torsional braid technique to the study of the curing and stability of resins, 2293
Gillham, J. K.: see Lewis, A. F.
Gioumousis, G.: Shapes of cells in polymer foams, 947

Giuffria, R.: Microscopical measurement of orientation of high-impact polystyrene extruded sheet, 333
——, Carhart, R. O., and Davis, D. A.: High gloss of extruded high impact polystyrene sheet. A microscopical study of sheet morphology, 1731, (*erratum*), S51
Goldey, R. N.: see Meltzer, T. H.
Gray, V. E., and Wright, J. R.: Colorimetric method for measuring polyester degradation due to weathering, 2161
Greensmith, H. W.: Rupture of rubber. X. The change in stored energy on making a small cut in a test piece held in simple extension, 993
Griesacker, P. B.: see Marin, J.
Guziak, L. F., and Maclay, W. N.: Redispersible latex polymers, 2249
Hagerup, E.: Flexural fatigue testing of polyesters, 1093
Hale, W. F.: see Reinking, N. H.
Hansen, O. C., Jr., Marker, L., Ninnemann, K. W., and Sweeting, O. J.: Relationship between dynamic modulus of thin films and stiffness, as determined by the handle-o-meter, 817
Harding, R. H.: see Hilado, C. J.
Heacock, J. F.: Determination of carboxyl groups in the presence of carbonyl groups in oxidized polyolefins by using sulfur tetrafluoride, 2319
Hearle, J. W. S.: The fine structure of fibers and crystalline polymers. I. Fringed fibril structure, 1175
——: The fine structure of fibers and crystalline polymers. II. The growth of crystalline regions in fibers, 1193
——: The fine structure of fibers and crystalline polymers. III. Interpretation of the mechanical properties of fibers, 1207
——: Theory of mechanical properties of fibrillar structures, 1635
Heitmiller, R. F.: see Narr, R. Z.
Hersh, S. P., Higgins, T. D., and Krause, H. W.: The influence of processing variables on the physical properties of a wet-spun modacrylic fiber, 411
Higgins, T. D.: see Hersh, S. P.
Hilado, C. J., and Harding, R. H.: Some relationships between water vapor permeability and chemical physical structure in rigid urethane foams, 1775
Hirose, T.: see Okuyama, M.
Hirt, R. C.: see Schmitt, R. G.
Hoback, K. F.: see Meltzer, T. H.
Hopkins, I. L.: Iterative calculation of relaxation spectrum from free vibration data, 971
Horn, C. F., Freure, B. T., Vineyard, H., and Decker, H. J.: Nylon 7, a fiber forming polyamide, 887
Hosterman, E. F.: see Stamm, R. F.
Hsieh, P. Y.: Diffusibility and solubility of gases in ethylcellulose and nitrocellulose, 1743
Hughes, L. J., and Brown, G. L.: Heterogeneous polymer systems. II. Characterization of graft copolymers of styrene on polyethylacrylate, 59
Iino, K.: see Matsuo, H.
Indicator, N.: see Tobolsky, A. V.
Isaksen, R. A., Newman, S., and Clark, R. J.: Mechanism of environmental stress cracking, in linear polyethylene, 515
Jackson, W. J., Jr., and Caldwell, J. R.: Properties of polyformals of alicyclic diols, 1975
Jeanes, A., Pittsley, J. E., and Senti, F. R.: Polysaccharide B-1459: A new hydrocolloid polyelectrolyte produced from glucose by bacterial fermentation, (*erratum*), S21
Johnson, D. L., and Baer, E.: The capillary flow of silicones, 1359
Johnson, J. F.: see Porter, R. S.
Johnson, P. G.: see Fritz, E. G.
Johnson, P. R.: see Maynard, J. T.
Jurbergs, K. A.: Studies on viscose insolubles, 375
Kakiuchi, H.: see Tanaka, Y.
Kammermeyer, K.: see Roberts, R. W.
Katz, D.: see Tobolsky, A. V.
Kaufman, M. H., and Ernsberger, F. M.: Kinetics of plasticizer migration between nitrocellulose and ethylcellulose in double-base propellant systems, 935
Kelley, J. J.: see Meltzer, T. H.
Kelly, D. P., Melrose, G. J. H., and Solomon, D. H.: Thermosetting vinyl and acrylic copolymers, 1991
Kervorkian, H. K.: see Passaglia, E.
Klein, E., Smith, J. K., and Eckert, R. J., Jr.: The acid hydrolyses of polyoxymethylene diisopropyl ethers, 383
Kobayashi, T.: see Onogi, S.
Kohn, L. S.: see Cohen, M.
Kojima, Y.: see Onogi, S.
Komanowsky, D. M.: see Port, W. S.
Kondo, M.: see Matsuo, H.
Kulkarni, A. Y., Chitale, A. G., Vaidya, B. K., and Mehta, P. C.: Grafting of polyacrylonitrile in cotton fabrics, 1581
Kraus, G.: Swelling of filler-reinforced vulcanizates, 861
——: Quantitative characterization of polybutadiene networks, 1257
Krause, H. W.: see Hersh, S. P.
Leeder, J. D., and Lipson, M.: Sorption of liquids by wool. Part IV. Sorption of ethanol by modified wool, 2053
Leeder J. D.: see Bradbury, J. H.
Lenz, R. W.: Barrante, J. R., and Andrews, R. D.: The glass temperature of asphalt, S45
Lerch, E.: see Marek, B.
Levi, D. W.: see Stivala, S. S.
Lewin, M.: see Mejzler, D.
Lewis, A. F., and Gillham, J. K.: Dynamic mechanical properties of supported polymers. I. Application of the torsional braid technique to the study of glass transition temperatures, 685
Lewis, A. F.: see Gillham, J. K.
Lipson, M.: see Leeder, J. D.

Lloyd, W. G., and Durocher, T. E.: Nucleophilic displacements upon poly-(vinyl benzyl chloride), 2025
Loan, L. D.: Crosslinking efficiencies of dicumyl peroxide in unsaturated synthetic rubbers, 2259
Lovejoy, E. R.: see Bro, M. I.
Luongo, J. P., and Salovey, R.: Infrared spectra of irradiated polyethylene, 2307
MacDonald, D. I.: see Cohen, M.
Maclay, W. N.: see Guziak, L. F.
MacRae, D. R.: Determination of the thermal diffusivity of rubber, S13
Maerker, G., Monroe, H. A., and Port, W. S.: Glycidyl esters. III. Reaction of diglycidyl esters and cyclic carboxylic anhydrides, 301
Mahon, H. I.: see Skiens, W. E.
Maisey, L. J., and Scanlan, J.: Crosslink formation during aging of natural rubber vulcanizates, 1147
Marek, B., and Lerch, E.: Ueber die Einwirkung von Konzentrierten Aethylendiaminlosungen auf Regeneratcellulosefasern, 257
Marin, J., and Griesacker, P. B.: Effect of radiation on creep of polyethylene, 133
——: Effect of radiation on tension, compression, bending and shear properties of polyethylene, 153
Mark, H.: see Fettes, E. M.
Marker, L.: see Hansen, O. C., Jr.
Marshall, D. W.: see Bikerman, J. J.
Mason, J. H.: see Reinking, N. H.
Matsuo, H., Iino, K., and Kondo, M.: Interferometric method for determining the distribution of graft concentration in radiation-induced graft copolymer, 1833
Maynard, J. T., and Johnson, P. R.: Ionic crosslinking of chlorosulfonated polyethylenes, 1943
McFarland, J. W., and Pariser, R.: Consumption of mercaptan chain transfer agents in chloroprene polymerization, 675
McGary, C. W., Patrick, C. T., Jr., and Smith, P. L.: Resins from *endo*-dicyclopentadiene dioxide, 1
McGuire, T. A.: see Wilham, C. A.
McIntyre, A. D.: Temperature dependence of dynamic mechanical properties of mixed polymer systems. II, 1291
McKay, G. R.: see Bro, M. I.
McKelvey, J. B., Benerito, R. R., Berni, R. J., and Burgis, B. G.: The action of epichlorohydrin in the presence of alkalies and various salts on the crease recovery of cotton, 1371
Mehltretter, C. L.: see Wilham, C. A.
Mehta, P. C.: see Kulkarni, A. Y.
——: see Modi, J. R.
Mejzler, D., Schmorak, J., and Levin, M.: A contribution to the theory of periodate oxidation of starch, 1557
Melrose, G. J. H.: see Kelly, D. P.
Meltzer, T. H., Dermody, W. J., and Tobolsky, A. V.: The fraction of effective sulfur crosslinking in SBR vulcanizates, 1487, 1493
——, Duddy, J. C., and Kelley, J. J.: Assay of polyethylene oxidizability by lead peroxide ignition, 735
——, Hoback, K. F., and Goldey, R. N.: Reaction of fuming nitric acid with polyethylenes, 71
——, Weiss, E., and Garvin, C. M.: The use of tensile measurements in following cellophane degradation, 1691
Merrill, S. H., and Unruh, C. C.: Photosensitive azide polymers, 273
Metil, I.: see Conley, R. T.
Metzger, A. P., and Brodkey, R. S.: Measurement of the flow of molten polymers through short capillaries, 399
Metzner, A. B.: see White, J. L.
Meyer, R. A., and Vernon, A. A.: Refractive indices of monomer-polymer mixtures of vinyl formate, vinyl acetate, vinyl propionate, and vinyl butyrate, 783
Michel, P. W., and Murphey, W. A.: Polymers from the condensation of dihydrazides with dialdehydes and diketones, 617
Middleman, S.: see Gavis, J.
Milloway, W. T., and Wiegand, J. H.: Failure criteria for some polyurethane propellants, 1325
Modi, J. R., Trivedi, S. S., and Mehta, P. C.: Heterogeneous hydrolysis of cotton cellulose treated with different swelling agents, 15
Mohr, P. H.: see Stern, S. A.
Monroe, H. A.: see Maerker, G.
Morton, F. J.: Gas permeation through Lexan polycarbonate resin, 1649
Moseley, W. W., Jr.: Effect of internal structure and local defects on fiber strength, 187
Moser, B. F.: see Nevin, C. S.
Murphey, W. A.: see Michel, P. W.
Mussa, C.: Stress relaxation in molten polymers. III, 1673
——, and Tablino, V.: Stress relaxation in molten polymers. II, 1391
Mykolajewycz, R., Sweeting, O. J., and Czapek, E.: Volume changes during glycerol absorption by regenerated cellulose, 251
Nagai, H.: Infrared spectra of stereoregular polymethyl methacrylate, 1697
Narr, R. Z., Zabusky, H. H., and Heitmiller, R. F.: Single point determination of intrinsic viscosity, S30
Nevin, C. S., and Moser, B. F.: Vinyl oil monomers. I. Vicinal methacryloxyhydroxy soy oils, 1853
Newman, S.: see Isaksen, R. A.
Ngoc Son, C. P.: see Beachell, H. C.
Ninnemann, K. W.: see Hansen, O. C., Jr.
Noguchi, T.: see Berkowitz-Mattuck, J. B.
Nordon, P.: A damping maximum in the free torsional oscillation of wool fibers, 341
Odian, G., Acker, T., and Sobel, M.: Accelerative effects in radiation-induced graft polymerization, 245

Ogawa, S.: see Suzuki, I.
Okada, Y.: Effect of atmosphere on radiation-induced crosslinking of polyethylene. Part I. Depressive effect and accelerating effect, 695
——: Effect of atmosphere on radiation-induced crosslinking of polyethylene. Part II. Dependency on dose rate, temperature, and gas pressure, 703
——: Effect of atmosphere on radiation-induced crosslinking of polyethylene. Part III. Effect of various gases and effect of electric field, 1153
——: Protective effect of nitrous oxide on radiation-induced degradation of polyisobutylene, 1791
Okuyama, M., and Hirose, T.: Mechanics of ultrasonic degradation of linear high polymer and ultrasonic cavitation, 591
Onogi, S., Kobayashi, T., Kojima, Y., and Taniguchi, Y.: Non-Newtonian flow of concentrated solutions of high polymers, 847
Palm, W. E.: see Scherr, H. J.
Pariser, R.: see McFarland, J. W.
——: see Yin, T. P.
Pascale, J. V.: see Russell, C. A.
Passaglia, E., and Kevorkian, H. K.: The heat capacity of linear and branched polyethylene, 119
Patrick, C. T., Jr.: see McGary, C. W.
Paxton, T. R.: The miscibility of polymers: Interaction parameter for polybutadiene with polystyrene, 1499
Payne, A. R.: Dynamic properties of heat-treated butyl vulcanizates, 873
——: see Gessler, A. M.
Pittsley, J. E.: see Jeanes, A.
Port, W. S., and Komanowsky, D. M.: Resins from phenolic esters of epoxidized fatty acids, 281
——: see Maerker, G.
Porter, R. S., and Johnson, J. F.: The flow of partially crystalline polyethylene, S33
Preiss, D. M., Sawyer, W. M., and Simpson, W. C.: Characteristics of experimental *cis*-1,4 polyisoprene latices, 1803
Prestridge, E. B.: An electron microscopic reinforcement criteria for carbon black masterbatches, 27
Price, R. E.: Time effects in polymer melt viscometers, S43
Rabek, J. F., and Rabek, T. I.: Investigation of the effect of chloronitroso compounds on polymers irradiated with UV light, S38
Rabek, T. I.: see Rabek, J. F.
Reegen, S. L.: see Engel, J. H., Jr.
Reinking, N. H., Barnaebo, A. E., and Hale, W. F.: Polyhydroxyethers. I. Effect of structure on properties of high molecular weight polymers from dihydric phenols and epichlorohydrin, 2135
——: Polyhydroxyethers. II. Effect of structure on properties of high molecular weight copolymers from dihydric phenol mixtures and epichlorohydrin, 2145
——, and Mason, J. H.: Polyhydroxyethers. III. Ester derivatives, 2153
Roberts, R. W., and Kammermeyer, K.: Polymer structure and gas permeation. I. Thermodynamic interpretation of permeation, 2175
——: Polymer structure and gas permeation. II. Permeation studies, 2183
Robertson, R. E.: On the cold-drawing of plastics, 443
Rosenbaum, S: Dyeing of polyacrylonitrile fibers. I. Rates of diffusion with malachite green and diffusion model, 1225
Roth, R. W., and Stamm, R. F.: The effect of ionizing radiation on acrylamidemethylenebisacrylamide gels, 53
Rovatti, W., and Bobalek, E. G.: Some aspects of the microstructure of polyblends of poly(vinyl chloride) and butadiene–acrylonitrile copolymer rubber with and without talc fillers, 2269
Rowe, P. D., and Thomas, D. K.: Thermal decomposition of dicumyl peroxide in polyethylene glycol and polypropylene glycol, 461
Rudolphi, A. S.: see Wilham, C. A.
Russell, C. A., and Pascale, J. V.: The early stages of isotactic polypropylene oxidation, 959
Sabia, R.: On the characterization of non-Newtonian flow, 347
Safare, P. S., Bhatnagar, H. L., and Biswas, A. B.: A study on the thermal degradation of rubber in dilute solutions, 2199
Salomon, G., and Van Bloois, F.: The mechanism of ozone cracking. I. Ozone cracking of plastic films, 1117
Salovey, R.: see Luongo, J. P.
Saunders, F. L., and Sovish, R. C.: Modification of cotton with acrylonitrile by radiation polymerization, 357
Sawyer, W. M.: see Preiss, D. M.
Saxena, V. P., Bhatnagar, H. L., and Biswas, A. B.: Viscometric determination of molecular weight of cellulose pulps in zinc ethylenediamine solution, 181
Scanlan, J.: see Maisey, L. J.
Scherr, H. J., and Palm, W. E.: A recording apparatus for the measurement of longitudinal creep, 1273
Schmitt, R. G., and Hirt, R. C.: Investigation of the protective ultraviolet absorbers in a space environment. III. Protective effectiveness, 1565
Schmorak, J.: see Mejzler, D.
Schneider, W. C.: see Chimai, S. N.
——: see Cotten, G. R.
Scott, A. G.: see Berninger, C. J.
Senti, F. R.: see Jeanes, A.
Shoulberg, R. H.: The thermal diffusivity of polymer melts, 1597
Simpson, W. C.: see Preiss, D. M.
Sinclair, T. F.: see Stern, S. A.
Skiens, W. E., and Mahon, H. I.: Permeation rate constants for water and salt flux through synthetic membranes, 1549

Smith, H. A.: Catalysis of the formation of urethanes, 85
Smith, J. K.: see Klein, E.
Smith, P. L.: see McGary, C. W.
Sobel, M.: see Odian, G.
Solomon, D. H.: see Kelley, D. P.
Sovish, R. C.: see Saunders, F. L.
Sperling, L. H.: Characterization of small gels in viscose, 1411
——: Evaluation of light-scattering and small-angle x-ray techniques using dilute dispersions of uniform polystyrene latices, 1891
Spurr, R. T.: Rheological behavior of a filled viscoelastic material, 2211
Stamm, R. F., Hosterman, E. F., Felton, C. D., and Hsia Chen, C. C.: Grafting of chloromethylstyrene to polypropylene fibers by the use of ionizing radiation, 753
——: see Roth, R. W.
Statton, W. O.: An x-ray crystallinity index method with application to poly(ethylene terephthalate), 803
Stern, S. A., Gareis, P. J., Sinclair, T. F., and Mohr, P. H.: Performance of a versatile variable-volume permeability cell. Comparison of gas permeability measurements by the variable-volume and variable-pressure methods, 2035
Stivala, S. S., Valles, R. J., and Levi, D. W.: Viscosity-molecular weight relations for an isotactic polybutene-1, 97
Storey, S. H.: see Bagley, E. B.
Strella, S.: Differential thermal analysis of polymers. I. The glass transition, 569
——: Differential thermal analysis of polymers. II. Melting, 1281
Suzuki, I., and Ogawa, S.: Effect of addition of cations on simultaneous grafting of styrene to rayon by gamma-radiation, 2067
Sweeny, W.: Polymerization of dialdehydes by metal alkyls, 1983
Sweeting, O. J.: see Hansen, O. C., Jr.
——: see Mykolajewycz, R.
Tablino, V.: see Mussa, C.
Takahashi, M: see Tobolsky, A. V.
Tanaka, Y., and Kakiuchi, H.: Study of epoxy compounds. Part I. Curing reactions of epoxy resin and acid anhydride with amine and alcohol as catalyst, 1063
——: Study of epoxy compounds. Part II. The gelation point of the epoxy resin–acid anhydride system, 1951
Taniguchi, Y.: see Onogi, S.
Thomas, C. R., and Barker, R. E., Jr.: Moisture and ion sorption in cellulose acetate, 1933
Thomas, D. K.: see Rowe, P. D.
Tobolsky, A. V., Carlson, D., and Indictor, N.: Viscoelastic properties of plasticized polymers, 393
——, Eisenberg, A., and Katz, D.: A rapid molecular weight determination for linear polyethylene, 309
——, Katz, D., and Eisenberg, A.: Maximum relaxation times in polytetrafluoroethylene, 469
——, and Takahashi, M.: Characteristic viscoelastic parameters for amorphous polymers, 1341
——: see Meltzer, T. H.
Tochon, J.: see DeVries, A. J.
Tomic, E. A.: see Berninger, C. J.
——: see Degeiso, R. C.
Tordella, J. P.: Unstable flow of molten polymers: A second site of melt fracture, 215
Traaen., A.: Investigations of graft copolymer formation in aqueous solutions of vinyl acetate in the presence of polyvinyl alcohol, 581
Trivedi, S. S.: see Modi, J. R.
Unruh, C. C.: see Merrill, S. H.
Vaidya, B. K.: see Kulkarni, A. Y.
Vakula, V. L.: see Voyutskii, S. S.
Valles, R. J.: see Stivala, S. S.
Van Bloois, F.: see Salomon, G.
VanDenBerghe, J.: see Dunham, K. R.
Vernon, A. A.: see Meyer, R. A.
Vineyard, H.: see Horn, C. F.
Voyutskii, S. S., and Vakula, V. L.: The role of diffusion phenomena in polymer-to-polymer adhesion, 475
Wales, M.: Density gradient sedimentation in polymer solutions, 203
Webers, V. J.: Measurement of triboelectric position, 1317
Weiss, E.: see Meltzer, T. H.
Weiss, P.: see Engel, J. H., Jr.
West, D. C.: Bagley, E. B.
White, J. L., and Metzner, A. B.: Development of constitutive equations for polymeric melts and solutions, 1867
Wiegand, J. H.: see Milloway, W. T.
Wilchinsky, Z. W.: Orientation in cold-rolled polypropylene, 923
Wilham, C. A., McGuire, T. A., Rudolphi, A. S., and Mehltretter, C. L.: Polymerization studies with allyl starch, 1403
Wishman, M., Detoro, F. E., Dotty, M. C., Felton, C., and Anderson, R. E.: Acrylonitrile copolymerization with a $NaClO_3/Na_2SO_3$ catalyst. Part I. Effect of 2-methyl-5-vinylpyridine, 833
Wright, B.: The effects of electron radiation on the properties of Ziegler polyethylenes, 1905
Wright, J. R.: see Gray, V. E.
Wyman, D. P.: see Bork, J. F.
Yin, T. P., and Pariser, R.: Dynamic mechanical properties of neoprene type W, 667
Zabusky, H. H.: see Narr, R. Z.
Ziifle, H. M., Berni, R. J., and Benerito, R. R.: Investigation of the catalyst in the cellulose-DMEU reaction. Part II. Physiochemical studies of the reaction, 1041
Zilkha, A.: see Feit, B. A.
Ziomek, J. S., and Forrette, J. E.: Raman and infrared spectra of 3-methylbutene-1, 1307

SUBJECT INDEX, VOLUME 7

Acid anhydride, curing reactions, 1063
Acid hydrolyses, of poly-oxymethylene diisopropyl ethers, 383
Acrylamide-methylenebisacrylamide gels, effect of ionizing radiation, 53
Acrylic copolymers, thermosetting, 1991
Acrylonitrile, anionic homogeneous and heterogeneous polymerization, 287
copolymerization, 833
copolymers, fractionation, 1243
modification of cotton, 357
Alicyclic diols, properties of polyformals of, 1975
N-Alkyl acrylamides, reactivity ratios with vinyl monomers, 451
Allyl glycidyl ether, crosslinked polyesters from, 1451
Allyl starch, polymerization studies, 1403
Antioxidants, rapid characterization, 727
Asphalt, glass temperature, S45
Attrited black, in butyl, 1815
Azide polymers, photosensitive, 273
Binders, filled, stress-strain, 1613
Butadiene–acrylonitrile copolymer rubber, polyblends, 2269
Butyl, dynamic properties, 1815
vulcanizates, heat-treated, 873
Calibration device, for an extensometer, S15
Capillary jets, normal stress in, 493
Capillary viscosity, concentrated copolymer solutions, 909, (*erratum*), 851
Carbon black masterbatches, electron microscopic reinforcement criteria, 27
Carboxyl groups, determination in presence of carbonyl groups, 2319
Carboxylic anhydrides, cyclic, 301
Catalysis, in formation of urethanes, 85
Catalyst, alcohol as, 1063
amine as, 1063
cellulose-DMEU reaction in, 1041
metal alkyls as, 1983
2-methyl-5-vinylpyridine as, 833
polyvinyl alcohol as, 581
Cell, variable-volume permeability, 2035
Cellophane degradation, tensile measurements, 1691
Cellulose acetate, moisture and ion sorption, 1933
Cellulose-DMEU reaction, 1041
Cellulose, fibers, regenerated, 257
pulps, molecular weight, 181
regenerated, during glycerol absorption, 251
Chloromethylstyrene, grafting, 753
Chloronitroso compounds, effect on polymers, S38
Chloroprene, polymerization, 675
Colorimetric method, measuring polyester degradation, 2161
Copolymer solutions, concentrated, capillary viscosity studies, 909
Copolymerization, acrylonitrile, 833
Cotton, cellulose, heterogeneous hydrolysis, 15
crease recovery, 1371
fabrics, grafting, 1581
modification by radiation polymerization, 357
untreated and APO-THPC treated, 709
Density gradient sedimentation, of polymer solutions, 203
Dialdehydes, polymerization, by metal alkyls, 1983
2,5-Dichlorostyrene, copolymers and terpolymers, 1531
3,4-Dichlorostyrene, copolymers and terpolymers, 1531
Dicumyl peroxide, crosslinking efficiencies, 2259
thermal decomposition, 461
vulcanizates, stress relaxation, 1543
endo-Dicyclopentadiene dioxide, resins, 1
Differential thermal analysis technique, transition measurements, 231
Diffusion model, rates of diffusion, 1225
Diffusion phenomena, in polymer-to-polymer adhesion, 475
Diglycidyl esters, reaction with cyclic carboxylic anhydrides, 301
Dihydrazides, condensation, 617
Dihydric phenol mixtures, high molecular weight copolymers, effect of structure on properties, 2145
Dihydric phenols, high molecular weight polymers, effect of structure on properties, 2135
Dimethylglyoxime, derivatives, 1523
Disulfide polymers, cleavage by thiols, 2239
Dynamic modulus, of thin films, 817
Electron microscope reinforcement, 27
Electron radiation, effects on properties of Ziegler polyethylenes, 1905
Epichlorohydrin, high molecular weight copolymers, 2145
high molecular weight polymers, 2135
Epoxy compounds, study, 1063, 1951
Epoxy resin–acid anhydride system, gelation point, 1951
Epoxy resins, curing reactions, 1063
resins, dielectric loss features, 2003
Ethanol, sorption by modified wool, 2053
Ethylcellulose, diffusibility and solubility of gases, 1743
kinetics of plasticizer migration, 935
Ethylenediamine solutions, from regenerated cellulose fibers, 257
Extraction, effect, on dicumyl peroxide vulcanizates, 1543
Fatty acids, epoxidized, resins from phenolic esters, 281
Fibers, fine structure, 1175, 1193, 1207

growth of crystalline regions, 1193
mechanical properties, 1207
strength, internal structure and local defects, 187
Fibrillar structures, mechanical properties, 1635
Fluorocarbon polymers, diffusion of gases in, 1919
Fractionation, of acrylonitrile copolymers, 1243
Fringed fibril structure, fine structure, 1175
Fuming nitric acid, reaction with polyethylenes, 71
Furfuryl alcohol polycondensates, oxidative degradation, 1083
structure, 37
Gamma-radiation, grafting of styrene to rayon, 2067
Gases, diffusibility and solubility, 1743
diffusion in fluorocarbon polymers, 1919
measurements of permeability, 2035
permeation, through Lexan polycarbonate resin, 1649
thermodynamic interpretation, 2175
Glass transition, of polymers, 569
study of temperatures, 685
Glycerol absorption, in volume change by regenerated cellulose, 251
Glycidyl esters, reaction with cyclic carboxylic anhydrides, 301
Graft copolymers, formation vinyl acetate, 581
radiation-induced, graft concentration, 1833
Graft polymerization, radiation-induced, 245
Handle-o-meter, determination of dynamic modulus, 817
Heterogeneous hydrolysis, of cotton cellulose, 15
Heterogeneous polymerizations, anionic, acrylonitrile, 287
Homogeneous polymerizations, anionic, acrylonitrile, 287
Ignitor, lead peroxide as, 735
Infrared estimation, cyclic oligomers, 1629
Infrared spectroscopy, examination of oxidative degradation, 1757
furfuryl alcohol polycondensates, 37
irradiated polyethylene, 2307
3-methylbutene-1, 1307
phenol-formaldehyde polycondensates, 103, 171
stereoregular polymethyl methacrylate, 1697
study of oxidative degradation, 1083
Initiators, alkali metal alkoxides as, 287
alkalies as, 1371
carbonyl groups as, 2319
cations as, 2067
dialdehydes as, 617
diketones as, 617
epichlorohydrin as, 1371
thiols as, 2239
Interferometric method, determining distribution of graft concentration, 1833
Intrinsic viscosity, determination, S37
single point determination, S30
Ionic crosslinking, cholorsulfonated polyethylenes, 1943
Ionizing radiation, acrylamide-methylenebisacrylamide gels, 53
grafting of chloromethylstyrene, 753
Kinetic study, oxidative degradation, 171
Latex polymer, redispersible, 2249
Lexan polycarbonate resin, gas permeation, 1649
Light-scattering technique, evaluation, 1891
Longitudinal creep, measurement, 1273
Malachite green, rates of diffusion, 7225
Maleic anhydride, crosslinked polyesters from, 1451
Melt fracture, molten polymers, 215
Membranes, permselective, sign reversal, 1265
synthetic, permeation rate constants, 1549
Mercaptan chain transfer agents, consumption, 675
Microreactor, introduction of polymer samples, 519
Microstructure, polyblends of polyvinyl chloride, 2269
Monomers, nitrogen-containing, reactivity ratios, 451
Neoprene W, mechanical properties, 667
Neoprene WB, melt elasticity and viscosity, 1715
Neural conduction, a possible mechanism, 1265
Newtonian liquids, capillary jets, 493
Nitrocellulose, diffusibility and solubility of gases, 1743
kinetics of plasticizer migration, 935
Nitrous oxide, protective effect on radiation-induced degradation, 1791
Nonlinear viscoelastic behavior, of polymer melts, 315
Non-Newtonian flow, characteristic, 347
concentrated solutions, 847
Nylon, friction and determination, 2075, 2105
Nylon 6, water extract, 1629
Nylon 7, fiber forming polyamide, 887
Oligomers, cyclic, infrared estimation, 1629
Oxidation degradation, furfuryl alcohol polycondensates, 1083
phenol-formaldehyde polycondensates, 103, 171
Ozone, surface reaction, 1003
cracking, mechanism, 1117
Peel adhesion, phenomenological aspects, 625
theoretical analysis, 643
Periodate oxidation, theory, 1557
Peroxide vulcanization, of natural rubber, 1023
Phenol-formaldehyde polycondensates, oxidation, 103
oxidative degradation, 171
Phenolic esters, epoxidized fatty acids, 281
Phenols, one step polyallylation, 1509

Plastic films, ozone cracking, 1117
Plasticizer migration, kinetics, 935
Plastics, cold-drawing of, 443
Polyacrylic acid, neutralized solutions, in mixtures water-ethanol, 89
Polyacrylonitrile, fibers, dyeing, 1225
grafting, 1581
oxidative degradation, 1757
Polyallylation, one-step, 1509
Polyblends, microstructure, 2269
Polybutadiene, interaction parameter, 1499
networks, quantitative characterization, 1257
Polybutene-1, isotactic, viscosity-molecular weight relations, 97
Polycaprolactain, melting temperatures, 1349
polymer-solvent interaction, 1349
Polyester–urethanes, structure, on temperature stability and solubility, 1679
Polyesters, crosslinked, 1451
degradation, due to weathering, 2161
flexural fatigue testing, 1093
Polyethyl acrylate, characterization of graft copolymers of styrene, 59
Polyethylene glycol, thermal decomposition of dicumyl peroxide, 461
Polyethylenes, effect of atmosphere on radiation induced crosslinking, 695, 703
chlorosulfonated, ionic crosslinking, 1943
crystalline, flow, 533
effect of gases and effect of electrical field, 1153
effect of radiation, 153
heat capacity, 119
irradiated, infrared spectra, 2307
linear, environmental stress cracking, 515
linear and branched, 119
mixtures, adhesiveness, 1031
oxidizability, 735
post extrusion swelling, 1661
radiation on creep, 133
radiation-induced crosslinking, 1153
rapid molecular weight, 309
reaction of fuming nitric acid, 71
Polyethylene terephthalate, x-ray crystallinity, index method, 803
Polyformals, alicyclic diols, properties, 1975
Polyhydroxyethers, effect of structure on properties of polymers, 2135
effect of structure on properties of copolymers, 2145
ester derivatives, 2153
Polyisobutylene, radiation-induced degradation, 1791
cis-1,4-Polyisoprene, intrinsic viscosity-molecular weight relationship, 507
latices, characteristics, 1807
Polymer ligands, 1515, 1523
polyvinyl β-ketoesters, 1797
Polymeric melts and solutions, constitutive equations, 1867
Polymerization, of acrylonitrile, 282
studies, with allyl starch, 1403
Polymers, amorphous, parameters of, 1341
condensation of dihydrazides with dialdehydes and diketones, 617
crystalline, fine structure, 1175, 1193, 1207
differential thermal analysis, 569, 1281
dynamic mechanical properties, 685, 2293
flexcracking, 1425
flow irregularities, 527
foams, shapes of cells, 947
high, concentrated solutions, 847
irradiated with UV light, 538
melting, 1281
melts, nonlinear viscoelastic behavior, 315
thermal diffusivity, 1597
miscibility, 1499
molten, flow, 399
stress relaxation, 1391, 1673
unstable flow, 215
plasticized, viscoelastic properties, 393
solutions, density gradient sedimentation, 203
structure and gas permeation, 2175, 2183
systems, heterogeneous, graft
copolymers of styrene on polyethyl acrylate, 59
mixed, dynamic mechanical properties, 1291
Polymer-to-polymer adhesion, 475
Polymethyl methacrylate, stereoregular, 1697
Polyolefins, oxidized, 2319
Poly-oxymethylene diisopropyl ethers, acid hydrolyses, 383
Polypropylene, cold-rolled, orientation, 923
electrical conductivity, 1015
fibers, grafting of chloromethylstyrene, 753
isotactic, oxidation, 959
Polypropylene glycol, thermal decomposition of dicumyl peroxide, 461
Polysaccharide B-1459: a new hydrocolloid polyelectrolyte (*erratum*), S21
Polystyrenes, latices, dilute dispersions, 1891
microscopical measurement, 333
modifications, copolymers and terpolymers, 1531
ring-substituted polystyrenes, 897
styrene copolymers, 143
sheet, high gloss of extruded high impact, 1731, (*erratum*), S51
high impact, 333
Polytetrafluoroethylene, maximum relaxation times, 469
resin, irradiated, reactions, 2121
Polyurethanes, color formation, 2217
elastomers, irradiated, stress-strain behavior, 1439
propellants, failure criteria, 1325
Polyvinyl benzyl chloride, nucleophilic displacements, 2025
Polyvinyl chloride, polyblends, 2269
unplasticized radical decoy and color formation, 1471
Polyvinyl β-ketoesters, polymeric ligands, 1797

Propellant systems, double-base, plasticizer migration, 935
Pyrolysis, untreated and APO-THPC treated cotton cellulose, 709
Radiation, on creep of polyethylene, 133
on tension, compression, bending, and shear properties of polyethylene, 153
Radiation polymerization, modification of cotton, 357
Raman spectra, 3-methylbutene-1, 1307
Rayon, grafting to styrene, 2063
Reacting agent, chemically protected rubber as, 1003
as vinyl monomers, 451
Recording apparatus, for the measurement of longitudinal creep, 1273
Relaxation spectrum, iterative calculation, 971
Resins, curing and stability, 2293
endo-dicyclopentadiene dioxide, 1
from phenolic esters of epoxidized fatty acids, 281
Rubbers, black-loaded, rapid characterization of antioxidants, 727
filled, strength, 1165
high sulfur-natural, vulcanizates, 1487, 1493
natural, gel phase, 603
peroxide vulcanization, 1023
vulcanizates, aging, 1147
oxidation, 789
purity, effect of, 1543
rupture, 993
thermal degradation in dilute solutions, 2199
thermal diffusivity, 513
unsaturated synthetic, 2259
Salt flux, permeation rate constants, 1549
Sheet morphology, a microscopical study, 1731 (*erratum*), S51
Silicones, capillary flow, 1359
Siloxy methylene oxide compounds, 1133
Single-point method, determining intrinsic viscosity, 537
Sodium dodecyl sulfate, interaction with vinyl polymers, 53
Sol-gel analysis, estimation of chain scission, 1023
Sorbate content determination, by a new technique, 533
Starch, periodate oxidation, 1557
Styrene, graft copolymers, 59, 143
grafting to rayon by gamma-radiation, 2063
Sulfenamide accelerator, oxidation of rubber, 789
Sulfur, crosslinking, fraction, 1487, 1493
Sulfur tetrafluoride, in oxidized polyolefins, 2319
Surface melt fracture, in polymer extrusion, 57
Swelling, filler-reinforced vulcanizates, 861
Swelling agents, in heterogeneous hydrolysis, 15
Talc fillers, in microstructure of polyblends, 2269
Thermal antioxidants, effect of carbon black (*erratum*), S22
Thermal decomposition, dicumyl peroxide, 461
Thermal diffusivity, polymer melts, 1597
Torsional braid technique, curing and stability of resins, 2293
glass transition temperatures, 685
Transition measurements, using differential thermal analysis techniques, 231
Triboelectric position, measurement, 1317
Ultrasonic cavitation, mechanics, 591
Ultrasonic degradation, linear high polymer, 591
Ultrathin microtomed sections, polymers. Part III, 727
Ultraviolet absorbers, protective, in a space environment, 1565
Ultraviolet spectra, extracts of antioxidants, 727
Urea, hydrogen bond breaking action, 516
Urethanes, catalysis in formation, 85
foams, chemical physical structure, 1775
Variable-pressure method, measurements, 2035
Variable-volume method, measurements, 2035
Vicinal methacryloxy-hydroxy soy oils, 1853
Vinyl acetate, graft copolymer formation, 581
refractive indices, 783
Vinyl butyrate, refractive indices, 783
Vinyl copolymers, thermosetting, 1991
Vinyl formate, refractive indices, 783
Vinyl oil monomers, vicinal methacryloxy-hydroxy soy oils, 1853
Vinyl polymers, in aqueous solutions, 53
Vinyl propionate, refractive indices, 783
Vinyltriacylmethanes, polymeric ligands, 1515
Viscoelastic, liquids, capillary jets, 493
material, rheological behavior, 2211
parameters, of amorphous polymers, 1341
Viscose, insolubles, 375
small gels, 1411
Viscometers, polymer melt, time effects, 843
Water, permeation rate constants, 1549
Water vapor permeability, in urethane foams, 1775
Wet-spun modacrylic fiber, physical properties, 411
Wool fibers, damping maximum, 341
torsional oscillation, 341
modified, sorption of ethanol, 2053
sorption of liquids, accessibility to sorbates, 557
ethanol sorption, 2053
partial specific volumes, 545
sorbate content, 533
X-ray crystallinity index method, with application to poly(ethylene terephthalate), 803
X-ray technique, small-angle, evaluation, 1891
Ziegler polyethylenes, properties, 1905
Zinc ethylenediamine solution, viscometric determination of molecular weight of cellulose pulps, 181